

What is claimed is:

1. A method for providing remote engineering for an industrial environment, said industrial environment having a plurality of production devices each with at least one digital control unit connected thereto and employing one or more of a diverse plurality of communication protocols to provide a discreet communication channel providing input of instructions and output of data for each production device, comprising the steps of:

translating the output of said digital control units into a plurality of discrete data streams having a common communication protocol;

reversably encoding said plurality of discrete data streams into a first single data stream using said common communication protocol;

transmitting said first single data stream to a remote network;

decoding said first single data stream into said discrete data streams;

identifying by analysis of said data at the remote network at least one target production device of said plurality of production devices to receive instructions;

formulating a plurality of instructions responsive to said analysis and arranged as a discrete instruction set corresponding to each of said at least one target production device;

reversably encoding said instruction sets into a second single data stream using said common communication protocol;

transmitting said second single data stream to said industrial environment;

decoding said second single data stream at the local network into said discrete instruction set;

translating said instruction set into at least one of said diverse communication protocols executable by the digital control unit connected to each of said at least one target production unit; and

delivering said instructions over the local network to the target production unit.

2. The method of Claim 1 wherein said first single data stream and said second single data stream are transmitted across a single bidirectional communication line.

3. A method for providing remote telemetry for an industrial environment having a plurality of production devices with digital control units employing one or more of a diverse plurality of communication protocols to provide a discreet data streams comprising the steps of:

translating the output of said digital control units into a plurality of discrete data streams having a common communication protocol;

reversably encoding said plurality of discrete data streams into a single data stream using said common communication protocol;

transmitting said data stream over an open network to a remote network in real time;

decoding said single data stream into said discrete data streams at said remote network.

4. In production environment having a plurality of production devices with digital control units connected by at least one interface thereto and employing one or more of a diverse plurality of communication protocols to provide a discrete data stream, a system for providing process engineering from a remote data network comprising:

an open network connected to said remote data network and enabling data communication therebetween;

at least one translator connected to each of said plurality of control units to allow conversion of data between said diverse plurality of communication protocols and a common communication protocol;

a data network local to said production environment and using said common communication protocol for connecting said at least one translator to said open network and allowing data communication therethrough with said remote data network.

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